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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,590	01/13/2006	William G. Lutz	63119A	2341
109	7590	07/15/2008	EXAMINER	
The Dow Chemical Company Intellectual Property Section P.O. Box 1967 Midland, MI 48641-1967			FISCHER, JUSTIN R	
ART UNIT	PAPER NUMBER			
		1791		
MAIL DATE	DELIVERY MODE			
07/15/2008	PAPER			

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/564,590	<b>Applicant(s)</b> LUTZ ET AL.
	<b>Examiner</b> Justin R. Fischer	<b>Art Unit</b> 1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 23 April 2008.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1-3,7-10 and 12-21 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-3,7-10,12 and 14-21 is/are rejected.

7) Claim(s) 12 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 7-10, and 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1,112,326 (of record) and further in view of Zharov (EP 1,029,906, of record) and Hart (EP 0001482, newly cited). As best depicted in Figure 1, GB '326 is directed to a method of bonding a pipe/spigot 5 and a socket or fitting comprising a bell 2. The reference further teaches that the respective components, which are formed of synthetic thermoplastic materials, are adhesively bonded (Page 1, Lines 9-18 and Lines 80-90). The reference, however, is completely silent with respect to the makeup of the adhesive composition. Zharov, on the other hand, is directed to an adhesive composition comprising a boron containing initiator that provides suitable adhesion between low surface energy substrates that are otherwise difficult to bond (Paragraph 54). One of ordinary skill in the art at the time of the invention would have been particularly motivated to use the adhesive of Zharov in the bonding method of GB '326 since the method of GB '326 is broadly directed to the class of synthetic thermoplastic materials, which include the well known polyolefin materials described by GB '326. It is emphasized that the method of GB '326 includes the bonding of polyethylene or polypropylene pipes, which are recognized as low surface energy

substrates in view of Zharov. Hart is further provided to expressly recognize the disclosure of PVC, polyethylene, and polypropylene when listing suitable thermoplastic materials for pipe components (Page 3, Lines 3+). Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use the adhesive composition of Zharov in the bonding method of GB '326.

Regarding claims 4 and 5, the respective components are defined as synthetic thermoplastic materials.

With respect to claims 6-9, polypropylene and polyethylene are recognized as common thermoplastic materials used in the piping industry- a fair reading of GB '326 suggests bonding methods using a variety of known thermoplastic materials, including polypropylene and polyethylene (known thermoplastic materials used in pipes and disclosed alternatively with PVC). It is further noted, with respect to claim 6, that GB '326 provides an exemplary embodiment in which the respective components are formed of polyvinyl chloride. Additionally, pipe joining methods commonly involve different materials- one of ordinary skill in the art at the time of the invention would have readily appreciated using the method of GB '326 with similar or dissimilar materials.

As to claim 10, the amine component of the organoborane amine complex of Zharov can be a primary alkyl diamine or a secondary alkyl diamine and such a construction is seen to satisfy "a polyamine having primary or secondary amines".

Regarding claim 14, the adhesive composition of Zharov includes a decomplexing agent, such as a Lewis acid (Paragraph 35).

As to claim 15, the adhesive composition of Zharov can include an isocyanate-containing compound (Paragraph 44). It is further noted that the claim as currently drafted does not require each of the listed components (evidenced by the language or mixtures thereof).

With respect to claim 16, as noted above, the adhesive of Zharov is a polymerizable acrylic monomer (Paragraph 37).

Regarding claims 17-19, the socket includes a bell portion or expanded portion comprising an annular groove or gap. It is evident from Figure 1 that the adhesive flows, to some degree, in the gap. With specific respect to claim 19, the annular groove can be viewed as a channel in the bell.

As to claims 20 and 21, while the references fail to define the amount of VOC emissions, one of ordinary skill in the art at the time of the invention would have expected the method of GB '326 in view of Zharov to demonstrate similar emissions to that of the claimed invention (a function of using an extremely similar adhesive composition).

3. Claims 1-3, 7-10, 12, and 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB '326 and further in view of Webb (US 2003/0120005, of record). As best depicted in Figure 1, GB '326 is directed to a method of bonding a pipe/spigot 5 and a socket or fitting comprising a bell 2. The reference further teaches that the respective components, which are formed of synthetic thermoplastic materials, are adhesively bonded (Page 1, Lines 9-18 and Lines 80-90). The reference, however, is completely silent with respect to the makeup of the adhesive composition. Webb, on

the other hand, is directed to an adhesive composition comprising a boron containing initiator that provides suitable adhesion between low surface energy substrates that are otherwise difficult to bond (Paragraph 10). One of ordinary skill in the art at the time of the invention would have been particularly motivated to use the adhesive of Webb in the bonding method of GB '326 since the method of GB '326 is broadly directed to the class of synthetic thermoplastic materials, which include the well known polyolefin materials described by GB '326. It is emphasized that the method of GB '326 includes the bonding of polyethylene or polypropylene pipes, which are recognized as low surface energy substrates in view of Webb. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use the adhesive composition of Webb in the bonding method of GB '326.

Regarding claims 4 and 5, the respective components are defined as synthetic thermoplastic materials.

With respect to claims 6-9, polypropylene and polyethylene are recognized as common thermoplastic materials used in the piping industry- a fair reading of GB '326 suggests bonding methods using a variety of known thermoplastic materials, including polypropylene and polyethylene. It is further noted, with respect to claim 6, that GB '326 provides an exemplary embodiment in which the respective components are formed of polyvinyl chloride. Additionally, pipe joining methods commonly involve different materials- one of ordinary skill in the art at the time of the invention would have readily appreciated using the method of GB '326 with similar or dissimilar materials.

As to claims 10 and 12, Webb discloses a plurality of the claimed amine complexes (Paragraphs 45-47).

Regarding claim 14, the adhesive composition of Webb includes an isocyanate decomplexing agent (Paragraph 66). It is further noted that the claim as currently drafted does not require each of the listed components (evidenced by the language or mixtures thereof).

With respect to claim 16, as noted above, the adhesive of Webb can be a polymerizable acrylic monomer (Paragraph 67).

Regarding claims 17-19, the socket includes a bell portion or expanded portion comprising an annular groove or gap. It is evident from Figure 1 that the adhesive flows, to some degree, in the gap. With specific respect to claim 19, the annular groove can be viewed as a channel in the bell.

As to claims 20 and 21, while the references fail to define the amount of VOC emissions, one of ordinary skill in the art at the time of the invention would have expected the method of GB '326 in view of Webb to demonstrate similar emissions to that of the claimed invention (a function of using an extremely similar adhesive composition).

#### ***Allowable Subject Matter***

4. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments filed April 23, 2008 have been fully considered but they are not persuasive.

It is initially noted that the rejection with US 6,777,512 has been removed in light of applicant's statement of common ownership. However, the rejection with US 2003/0120005 (despite the statement of common ownership) is maintained since the reference is applicable under a statutory bar (35 USC 102(b)).

Regarding GB '326, applicant argues that the reference is not silent as to the makeup of the adhesive composition but rather that it is directed to the use of a solvent based resin associated with the material of the pipe. The examiner respectfully disagrees. A fair reading of GB '326 does not limit the type of adhesive- the reference simply suggests the use of conventional adhesives used to bond pipe materials formed of thermoplastic materials. Regarding the class of thermoplastic materials disclosed by GB '326, the disclosure of PVC pipes is clearly exemplary ("for example" polyvinyl chloride)- one of ordinary skill in the art at the time of the invention would have readily appreciated the use of additional, well known thermoplastic materials, such as polyethylene and/or polypropylene, since all of these materials are well recognized as being conventional thermoplastic materials used in the piping industry. In bonding polyethylene and/or polypropylene pipe components, one of ordinary skill in the art at the time of the invention would have been motivated to select adhesives that efficiently bond such pipe materials. One such adhesive is that disclosed by Zharov- the adhesive material disclosed by Zharov is recognized as providing a high degree of adhesion

between low surface energy substrates, such as polyethylene or polypropylene. It is emphasized that GB '326 in no way limits the adhesive composition to a solvent based resin that is associated with the resin used to form the pipe. In view of Zharov, one of ordinary skill in the art at the time of the invention would have been amply motivated to select the adhesive of Zharov in the pipe joining method of GB '326.

Furthermore, even if the disclosure of GB '326 suggests the use of such a solvent based resin, the reference fails to place a criticality on the specific type of adhesive. The question to ask is whether or not one of ordinary skill in the art at the time of the invention would have found it obvious to use the adhesive of Zharov in the pipe joining method of GB '326. As detailed above, Zharov explicitly describes an adhesive composition that provides a high degree of adhesion between low surface energy substrates, such as polyethylene and/or polypropylene.

With respect to claims 20 and 21, while the references fail to define the amount of VOC emissions, one of ordinary skill in the art at the time of the invention would have expected the method of GB '326 in view of Zharov to demonstrate similar emissions to that of the claimed invention (a function of using an extremely similar adhesive composition).

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is (571) 272-1215. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer  
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Primary Examiner, Art Unit 1791